Powder Paint Murder Mystery

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Diamond Vogel Paint

Part I: General Overview of Business
In 1926, Andrew launched Vogel Paint and Wax Company in Orange City, Iowa. A second and third generation of Vogel's rose through the company. They now have seven manufacturing facilities, 70 service centers, and have produced millions of gallons of paint.

Part II: Job Specifics
Powder paint is one of the biggest areas of Diamond Vogel and has many interesting facets to it. Although matching color is critical, there are also other physical tests such as particle size, cure temperature, impact testing, gloss, and the thickness of the powder paint that the customer expects to be met by the paint.

Part III: Introduce the Problem
I am going to use the cure temperature as the test the students will use to solve a hypothetical murder mystery similar to what they see on a show like CSI. Three potential suspects from different paint locations will be shown with the types of powders they have used and compared to the crime scene powder.

Part IV: Background
Students will be shown how to properly test the cure time of a sample of powder. They will find the cure times for the three samples given and compare that to the sample at the crime scene to determine who the killer is.

Part V: Business Solution
Cure time at 200 degrees Celsius is one of the physical tests that Diamond Vogel Paint does with the powder for each customer. I found three different white powders with three distinctly different cure times for my project with the students. One has a low cure, (time of 35 seconds) one a mid cure, (time of 115 seconds) and one high cure, (time of 190 seconds.)

Part VI: Student Solutions
The students will be given a scenario where there has been a murder and there was white paint powder at the scene. They will do testing of the cure time of the sample found at the murder scene and then compare that to samples they test from workers at three powder plants who could have committed the crime. By comparing these worker samples to the crime scene sample, they will be able to determine who the killer is.